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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/742,930	12/23/2003	Jae Bum Kim	8733.997.00-US	9687
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MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006				
			EXAMINER PENG, CHARLIE YU	
			ART UNIT 2883	PAPER NUMBER

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/742,930

Applicant(s)

KIM, JAE BUM

Examiner

Charlie Peng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☒ Claim(s) 2-4, 6-8, 10-12, 14 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Specification***

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 25, 74, and 88. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

3. Claim 1 is objected to because of the following informalities: the phrase “*optical fiber*” lacks the adjective “**an**” or should be made **plural**. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 5, 6, 8-10, and 12 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,655,825 to Muthu et al. Muthu et al. teach a backlight apparatus for an LCD having a light source made of a plurality of RGB LEDs (24) generating red, green, and blue light, and the light is directed to optical fibers (30) by in-coupling optics (28). Muthu et al. teach that the apparatus may also include structures such as a light guide for guiding the light through the LCD and a reflector for reflecting the light out of (away from) the LCD. Muthu et al. also teach light distribution rods (36, 38) placed along to upper and lower edges respectively of the light guide (32).

5. With respect to claim 1, Muthu et al. do not discuss how the optical fibers are connected to the LEDs, but coupling of optical fibers and LEDs is well known in the art. It would have been obvious to one of ordinary skill in the art at the time the invention

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was made to used a diffuser and/or a collimator. The motivation would be to cause the light to be more homogenous and/or to improve the light coupling to the optical fibers.

6. Referring to claims 3, 6, and 10, it is well known in the art that glass and plastic are the two preferred materials used to manufacture optical fibers. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use glass or plastic optical fibers, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. The motivation would be to use the most readily available materials to create an apparatus of at reduced cost.

7. Referring to claim 5, although Muthu et al. do not specify exact placement of the light guide and the reflector, it is inherent to the described function of the LCD that the light guide to be placed at the rear of the LCD panel and the reflector to be place below the light guide.

8. Claims 4, 7, and 11 are rejected under 35 U.S.C. §103(a) as being unpatentable over Muthu et al. as applied to claim 3 above, and further in view of U.S. Patent 5,252,733 to Norman et al. Muthu et al. teach the backlight unit except for a particular type of glass that is used to create the optical fiber. Norman et al. teach a usage of fluoride glass optical fibers. (Column 1, lines 10-39) It would have been obvious to one having ordinary skill in the art at the time the invention was made to use fluoride glass optical fibers, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended

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use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. The motivation would be to use the fluoride glasses for use in high transmittance optical fibers. See Conclusion for other related art.

9. Claims 13 and 14 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,361,180 to Iimura in view of Muthu et al. Iimura teaches an apparatus having two light guide portions **110** and **130**, and another light guide portion **120** acting as light transmission means equivalent to optical fibers. All of the said portions are made of plastic. (Column 7 line 32 to column 8 line 65) Iimura also teaches two light reflective means **150** and **190** used to reflect and/or redirect leaked light back to **110** or **120**. Iimura teaches a light source and light is transmitted to the light guide plate via a reflector (**210**) instead of optical fibers. Muthu et al. teach a light source and how light is delivered to a light guiding plate by optical fibers. It would have been obvious to one with ordinary skill in the art at the time the invention was made to substitute the reflector with the optical fibers surrounding the light source. The motivation would be, for example, to ease the removal of the heat generated by the LEDs.

10. Claim 15 is rejected under 35 U.S.C. §103(a) as being unpatentable over Iimura in view of Muthu et al. as applied to claims 13 and 14 above, and further in view of U.S. Patent 5,252,733 to Norman et al. Iimura et al. teach the backlight unit except for a particular type of glass that is used to create the optical fiber. Norman et al. teach a usage of fluoride glass optical fibers. (Column 1, lines 10-39) It would have been obvious to one having ordinary skill in the art at the time the invention was made to use

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fluoride glass optical fibers, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416. The motivation would be to use the fluoride glasses for use in high transmittance optical fibers. See Conclusion for other related art.

### ***Conclusion***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 6,178,222 to Savoia et al.; U.S. Patent 6,804,046 to Kakui et al.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charlie Peng whose telephone number is (571) 272-2177. The examiner can normally be reached on 8:30 am - 5 pm M-F.

13. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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14. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CYP



Frank G. Font  
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